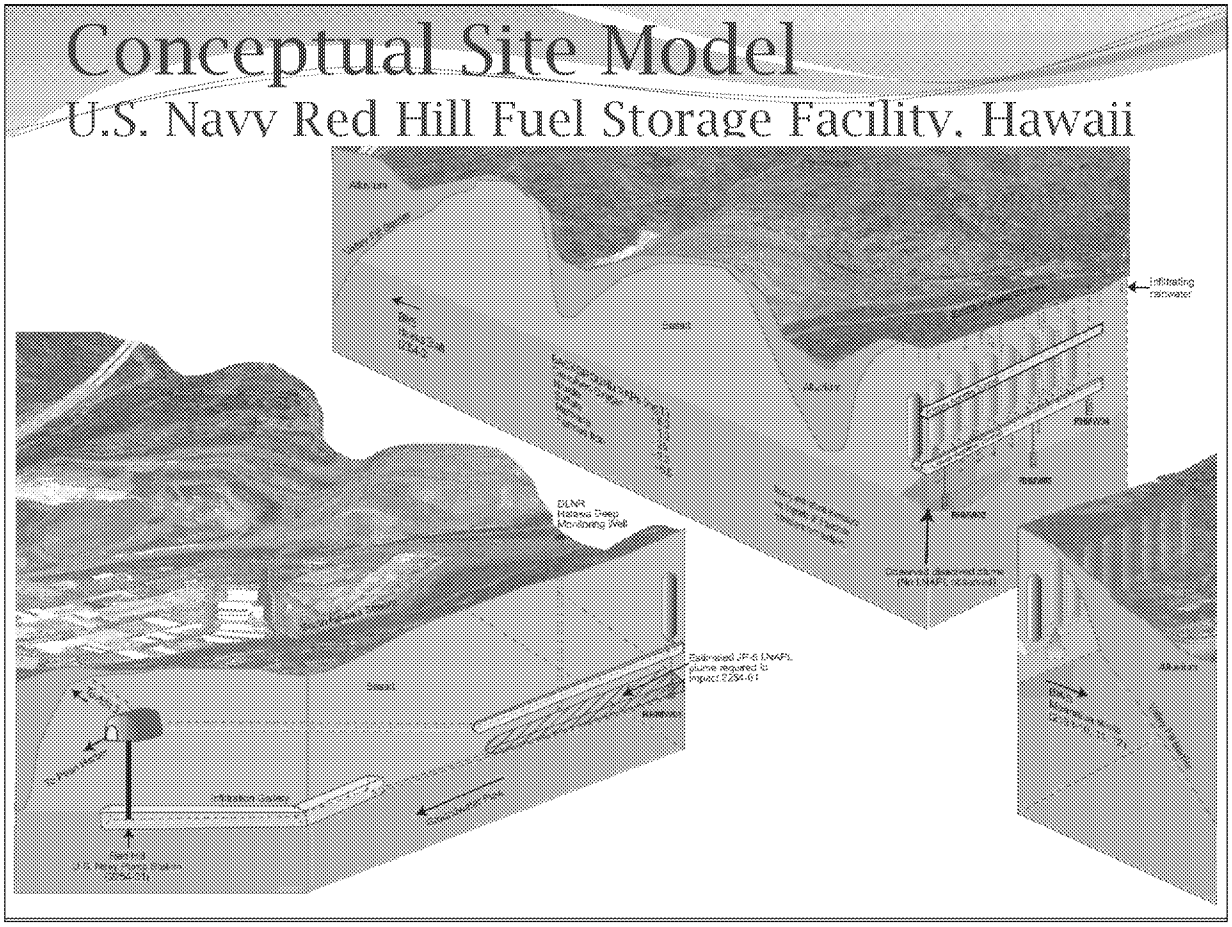

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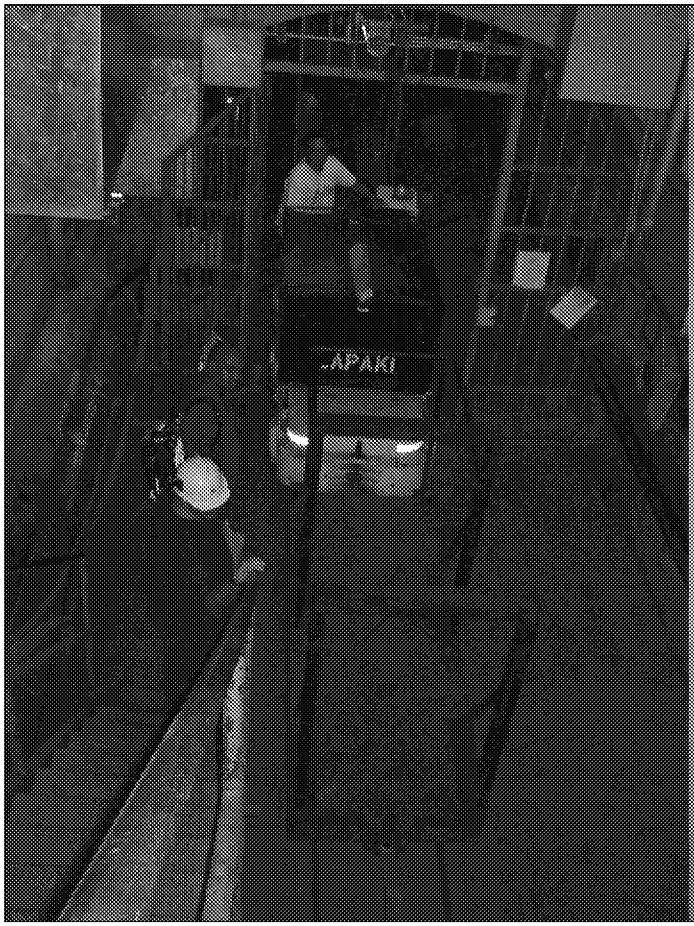
Quarterly Gwater:
8 Sampling events, comparisons to Tier 1 Action Levels (EALs)

Red Hill Fuel Storage Facility Groundwater Contamination Investigation

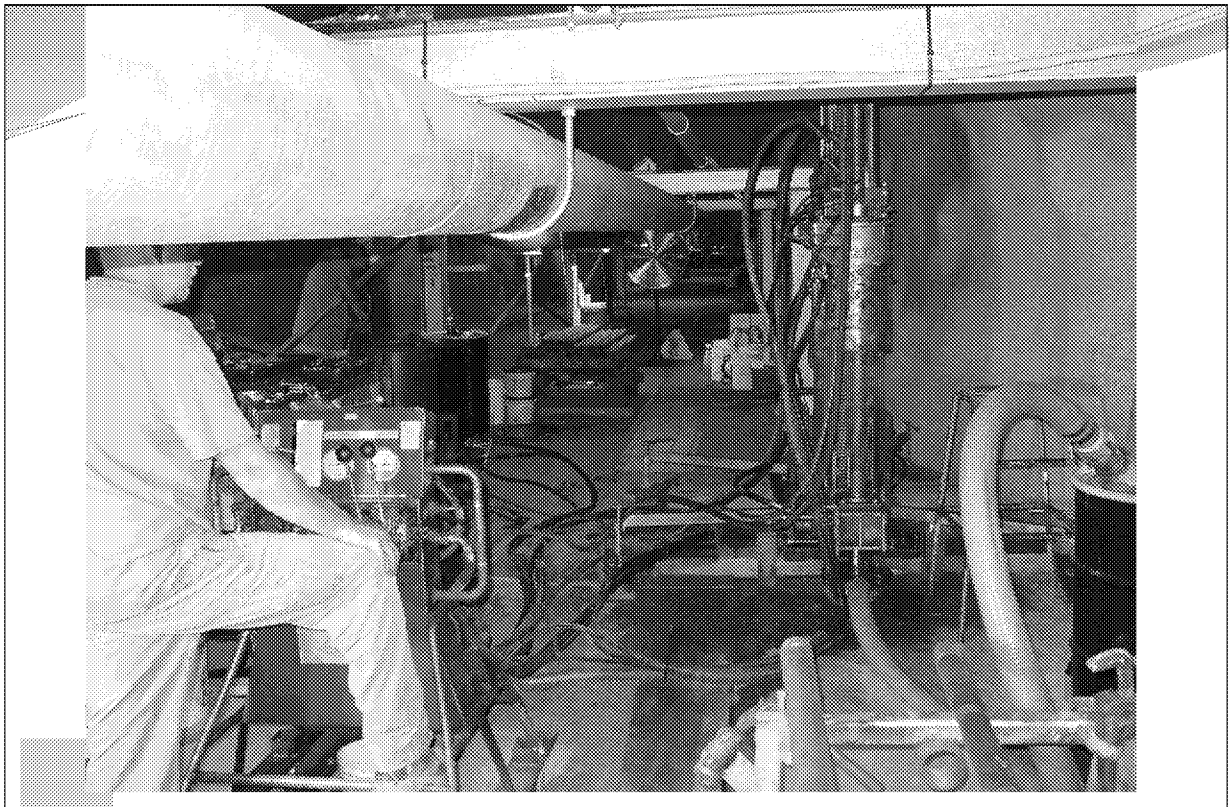
Geologic Investigation & Monitoring Well Installation (inside of the tunnel)

Aquifer testing



Red Hill – drilling inside of the tunnel

- Challenge drilling in an enclosed space
- Used mining equipment and a small gauge rail system
- Challenges:
  - Electrical power
  - Compressed air
  - Low overhead



Drilling a well in the tunnel using the portable Hagby Drill Rig. The rig can be tilted to do angle borings. This is likely RHMW02 near UST 5.

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Coring bits used to drill rock cores.

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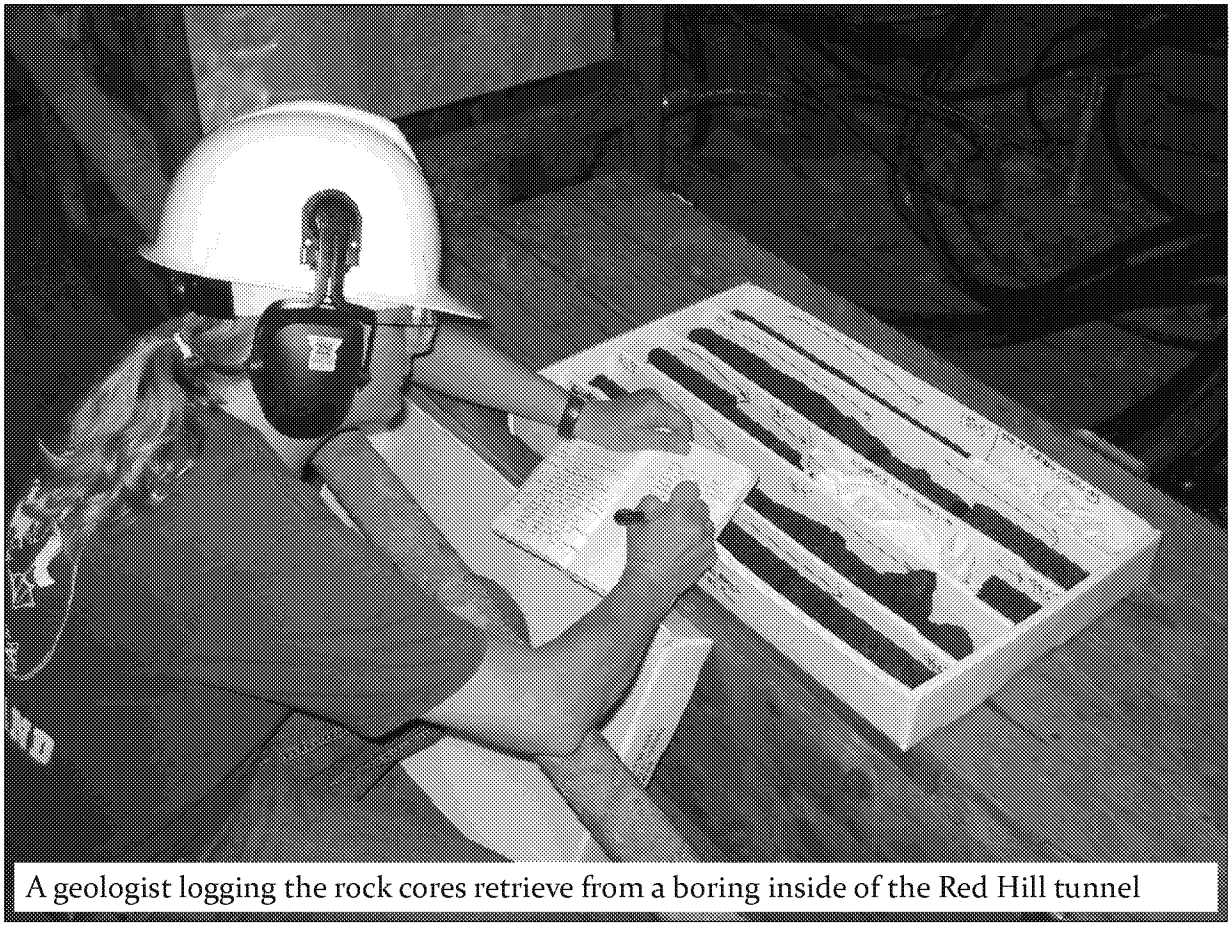

A geologist logging the rock cores retrieve from a boring inside of the Red Hill tunnel

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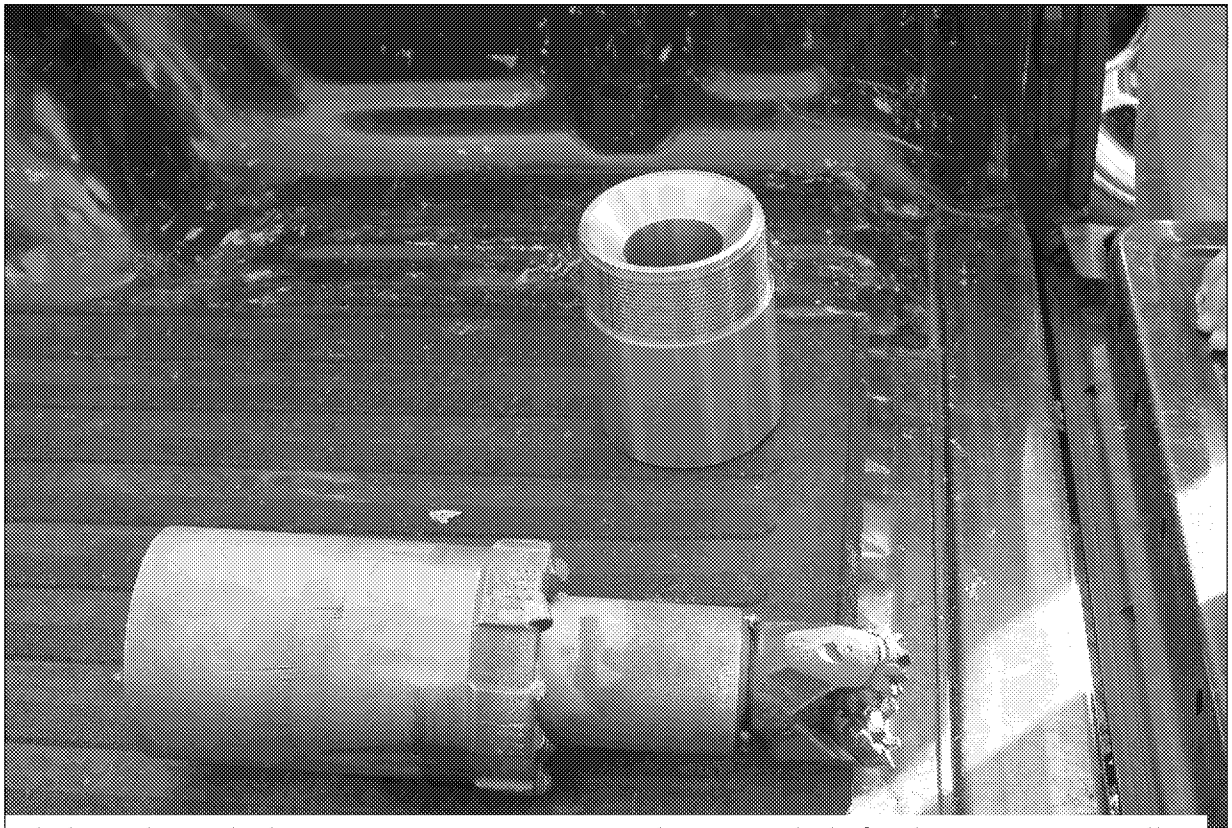

I believe this is the bit arrangement to ream out the coring hole for the monitoring well installation. The tri-cone bit in the center is to keep the drill string aligned with the core hole.

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Install a monitoring well

Installing well casing in a tunnel well.

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Installing well casing in a tunnel well and 1" tremie likely for placing the sand around the well screen.

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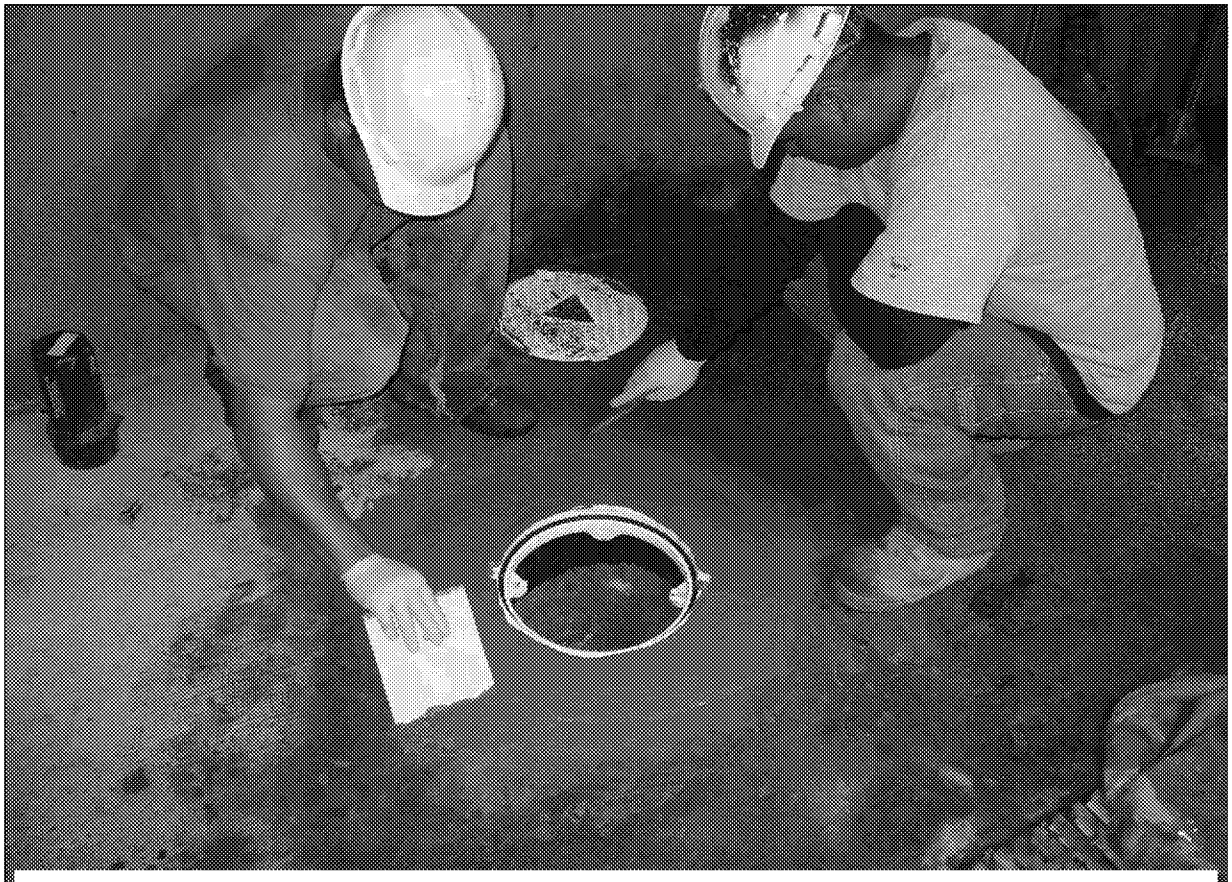

Final installation of the surface completion for a tunnel well.

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Red Hill Fuel Storage Facility Groundwater Contamination Investigation

Geologic Investigation

Monitoring Well Installation (outside of the tunnel)

Aquifer testing

Truck mounted drill rig in the process of air rotary hammer drilling. This is RHMW04

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The rotary hammer bit used to drill RHMW04

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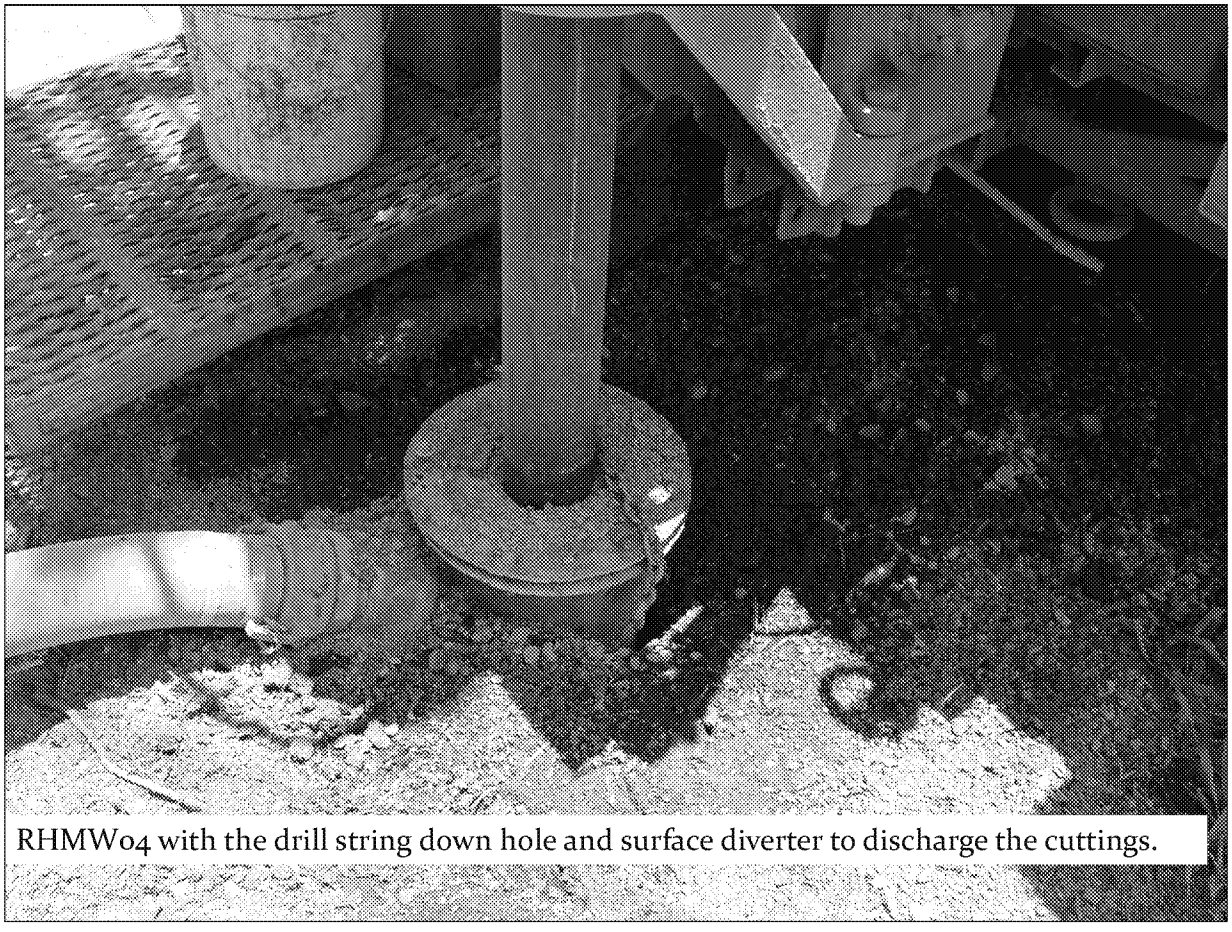

RHMW04 with the drill string down hole and surface diverter to discharge the cuttings.

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The cuttings from RHMW04 being discharged to a collection site.

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Installing well casing in RHMW04 and the driller sounding the hole to see how far up the annulus has been filled in.

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Red Hill Fuel Storage Facility Groundwater Contamination Investigation

Geologic Investigation

Monitoring Well Installation

Aquifer testing

Doing a temperature/conductivity of the Halawa Deep Monitoring Well (HDMW2253-03 prior to installing the pressure transducer to monitoring the 2006 aquifer test.

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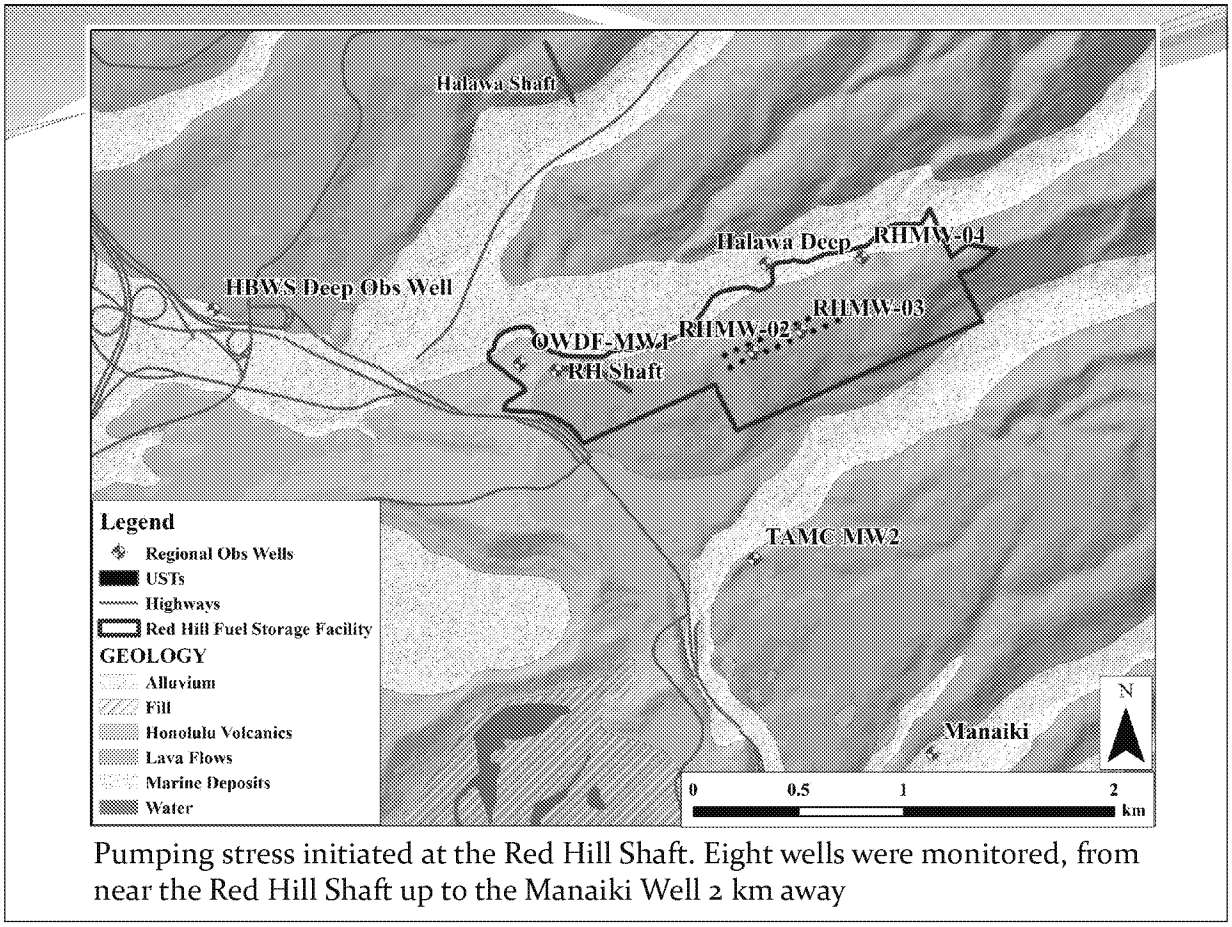
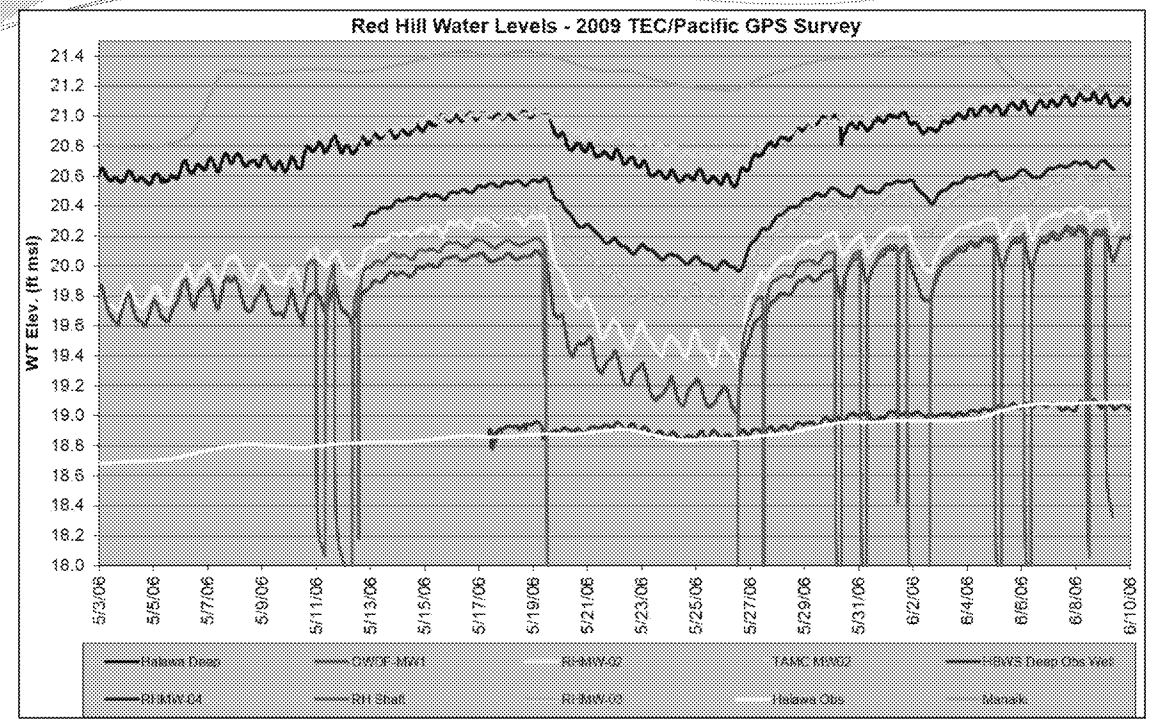
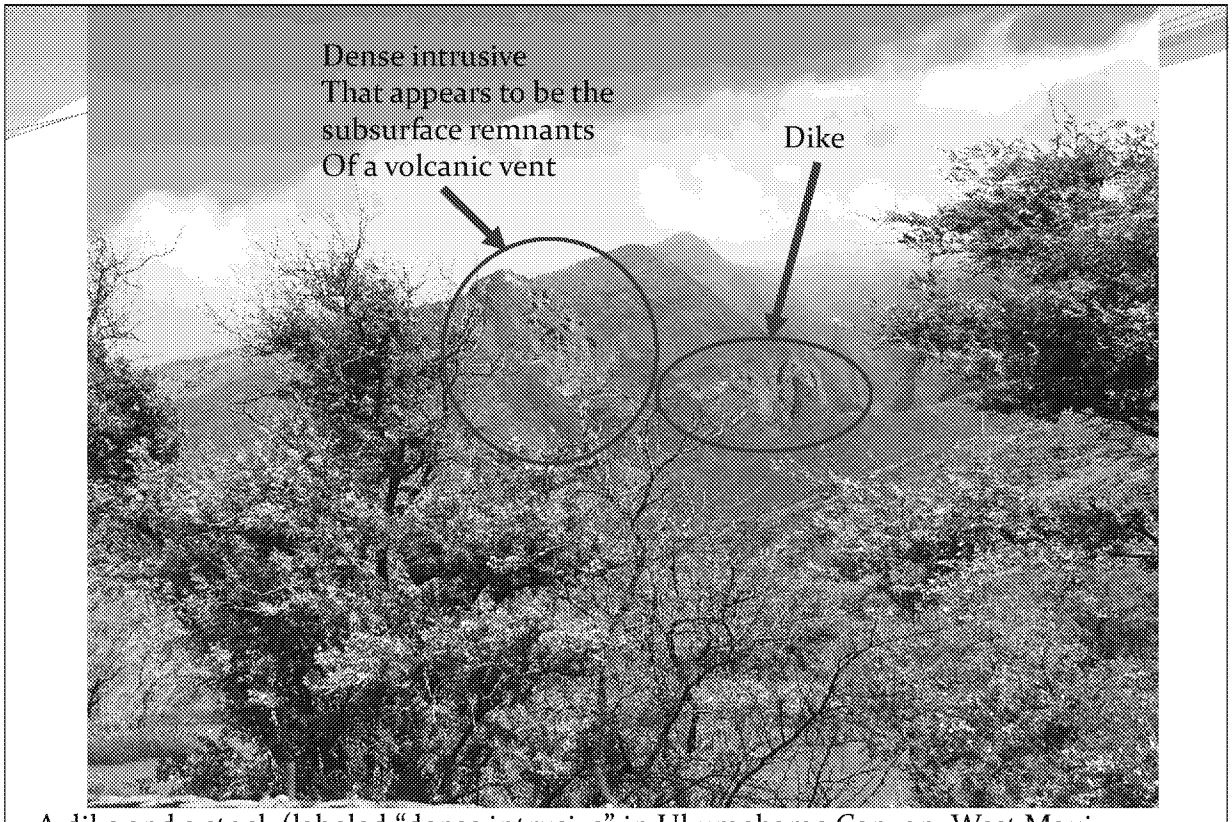


Pumping stress initiated at the Red Hill Shaft. Eight wells were monitored, from near the Red Hill Shaft up to the Manaiki Well 2 km away



All wells showed a response. The response in wells across the Halawa Valley was very muted.



A dike and a stock (labeled "dense intrusive" in Ukumehame Canyon, West Maui. Erosion has revealed the face of the dike and a stock that apparently was the subsurface portion of a volcanic vent. It is possible similar structures exist in the Red Hill region.